

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Detlef Busch et al.

Application No.: 10/511,951

Confirmation No.: 8785

Filed: October 21, 2004

Art Unit: 1732

For: USE OF POLYPROPYLENE FILMS FOR IN-  
MOLD LABELLING

Examiner: S. E. McDowell

**RULE 1.132 DECLARATION**

MS Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

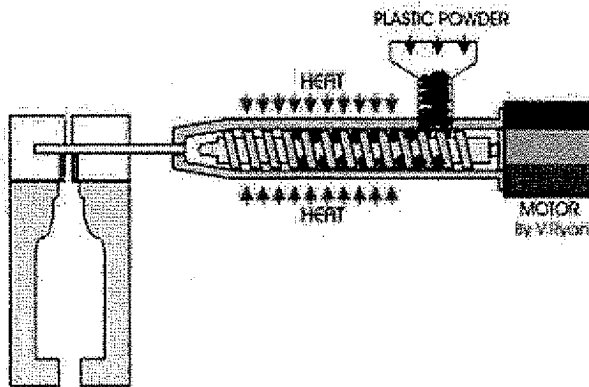
I, Karl Heinz Kochem, am a citizen of Germany and reside at Zu den Grenzsteinen 49, 66539 Neunkirchen, Germany, hereby declare and say as follows:

1. I am a fully trained physicist, having studied physics at University of Kaiserslautern, Germany. In addition, I am well acquainted with technical English.
2. I have been employed by Treofan Germany GmbH & Co. KG since January 1989, and I have worked and performed research and production in the field of polypropylene films including opaque and voided films since 1991, including transparent, opaque and voided polypropylene films for label application since 2001.
3. In the film field, I am an inventor on more than 16 U.S. patents and patent applications and an author of more than 5 publications and lectures.
4. In view of my qualifications as outlined above, I consider myself to be an expert and to be skilled in the art of plastic film and labels made from plastic films.
5. I have read and am familiar with U.S. Application 10/511,951 ("951 application").

6. I have reviewed the Office Action mailed February 7, 2008 in the '951 application. I have reviewed Oles (US Patent No. 4,769,205) ("Oles") and Davidson et al (U.S. Patent No. 6,815,048) ("Davidson").
7. The Examiner stated that Oles and Davidson are in the same field and solve the same problem and therefore can be combined. For the reasons stated below I do not believe that this is correct.
8. Oles does not disclose which kind of a material shall be used in the blow mold in-mold process. Oles does not even disclose whether paper or plastic films shall be used in his process. Oles does not provide any motivation to pick and choose a specific thermoplastic film, let alone a thermoplastic film of a porous structure. Oles is related to the blow mold / in-mold process and by no means has any teaching about the material which shall be used in the '951 process. Oles does not even suggest that the material is critical. There is no teaching about the material of the label. There is nothing which suggests which material might work, adhere or appear well as a label in this process. Oles is absolutely silent about the kind, structure and nature of the material to be used in his process. A person of ordinary skill in the art would derive from Oles that the material of the label is completely uncritical, that any material would work.
9. But as a matter of fact not all materials work in the process of Oles. Oles does not teach about the material for the label or problems related to the choice of the label material. Therefore, Oles cannot be combined in an obvious manner with prior art related to a specific material (porous film). Oles is a process patent about the blow molding process;
10. Davidson is a film patent about a specific film structure and about a process of making films. Davidson does not explicitly teach to use his film for in-mold labelling. Davidson discloses in Background of his invention that films in general can be used for in-mold labelling. Davidson also discloses in his Background of his invention that films in general can be used for many other label applications as well. But there is no disclosure in Davidson which says that the film according to the Davidson invention is specifically designed for in-mold labels. Col.1 in Davison is about the prior art to Davidson and not about the Davidson's invention.
11. There exist many different ways how to decorate a container with a label made from thermoplastic film. Each such technology has specific advantages over the other. In all these areas film can replace paper. So thermoplastic labels are used as self adhesive labels, sleeve labels, shrink labels, sport patch labels and finally in-mold labels.

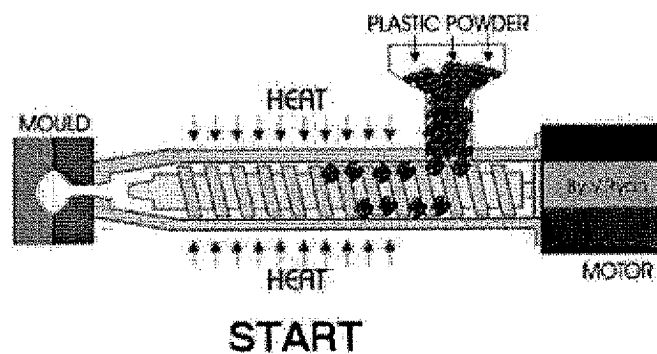
The air pressure then pushes the plastic out to match the mold. Once the plastic has cooled and hardened the mold opens up and the part is ejected.

15. The compressed air corresponds to a pressure of 4 to 5 bar and the temperature of the plastic is in the order of 150°C. The whole process conditions are much more moderate than during the injection molding.



16. Due to these technical differences different materials for in-mold labels are required. We have opaque voided films which (structure with closed cells) do not work in blow molding but do work in injection molding. For example such film is commercialized under the product name Treofan EUH. Transparent glossy films of a similar thickness do only work in injection molding under specific conditions, but never work in any blow molding.
17. Though generically all in-mold processes do have in common that the label is applied during the molding process, the techniques and conditions of thermoforming, blow molding and injection molding are so different that each process requires a different film material. Unfortunately there is no one specific film parameter which is related to the suitability of the film in such molding processes. Therefore a lot of the results are found by trial and error without having a scientific explanation for the failure or success. This makes it very difficult to develop films which can be used as in-mold label in the different molding processes.
18. Therefore the generic hint to labels is not sufficient to suggest that such film can be successfully used in a blow mold process. A person of ordinary skill in the art could only derive this from some explanation as to why a material works in an in-mold process. Davidson does not contain any such teaching. Davidson talks about the processing of the film in terms of unwinding and destacking,

12. Many film materials which work in the injection in-mold process will not work in the blow mold process. In the course of developing film products for use as labels in the blow mold process and the in-mold process we have had films which failed in either process. For example standard biaxially oriented PP films with usually very plain and smooth surfaces very often show problems by the build-up of bubbles in between the film and the moulded article and therefore are not used in these kind of applications.
13. The blow mold process, the injection in-mold process and the thermoform in-mold process are different for the reasons stated below. Injection molding is a manufacturing technique for making parts from thermoplastic materials. Molten plastic is injected at high pressure into a mold, which is the inverse of the product's shape. Injection molding is the most common method of production, with some commonly made items including bottle caps and the like. The basic injection cycle is as follows: Mold close – injection carriage forward – inject plastic – metering – carriage retract – mold open – eject part(s). The cycle is completed when the mold opens and the part is ejected with the assistance of ejector pins within the mold.



The pressure upon injecting the molten thermoplastic ranges between 300 – 600 bar and the temperature of the melt during this process is about 240°C in case of polypropylen. The molds need to be very effectively cooled .

14. Blow molding or blow forming is a manufacturing process by which hollow plastic parts are formed. The blow molding process begins with melting down the plastic and forming it into a parison or preform. The parison is a tube-like piece of plastic with a hole in one end in which compressed air can pass through. The parison is then clamped into a mold and air is pumped into it.

but this does not give any idea of how the material would adhere or how it avoids blisters in blow molding versus injection molding.

19. Therefore both references are NOT in the same field and do not solve the same problem and therefore cannot be combined in an obvious manner. For the reasons a person of ordinary skill in the art would not combine Oles with Davidson.
20. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

 23. 8. 1997

Karl Heinz Kochem

Date